



PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q54770

Yoshiharu SASAKI, et al.

Appln. No.: 09/337,667

Group Art Unit: 2861

Confirmation No.: 9266

Examiner: D. Yockey

Filed: June 22, 1999

For: IMAGE RECORDING METHOD AND IMAGE RECORDING APPARATUS

SUBMISSION OF APPELLANT'S BRIEF ON APPEAL

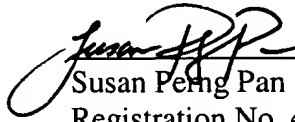
Commissioner for Patents
Washington, D.C. 20231

Sir:

Submitted herewith please find an original and two copies of Appellant's Brief on Appeal. A check for the statutory fee of \$320.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

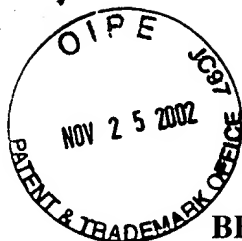
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PATENT APPLICATION

#26 Brief
Appeal
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APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192

Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with the provisions of 37 C.F.R. § 1.192, Appellant submits the following:

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Fuji Photo Film Co., Ltd. The assignment was recorded June 29, 1999 at Reel 10057, Frame 865.

II. RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences that would affect the outcome of this appeal.

III. STATUS OF CLAIMS

Claims 1, 2 and 4-17 remain pending in the application. Claims 6-11, 12/6-11 and 13-16 have been withdrawn from further consideration at this time.

Claims 1 and 12/1 have been rejected under 35 U.S.C. § 103 as being unpatentable over Takanashi et al. (U.S.P. 4,527,171, hereafter "Takanashi") in view of Michelson (U.S.P. 6,204,874). Claims 2, 4-5, 12/2/1 and 12/5/1 have been rejected under 35 U.S.C. § 103 as being unpatentable over Takanashi in view of Michelson and further in view of Fujimura et al. (U.S.P.

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5,397,763, hereafter "Fujimura").¹ Claims 2 and 17 have been rejected under 35 U.S.C. § 103 as being unpatentable over Takanashi in view of Michelson and further in view of Koguchi et al. (5,578,824, hereafter "Koguchi").

IV. STATUS OF AMENDMENTS

The amendments of the submission dated June 25, 2002 were denied entry, as indicated in the Advisory Action dated July 25, 2002.

V. SUMMARY OF THE INVENTION

Appellant's invention relates to an image recording method using a toner sheet and image receiving paper, where inks are successively transferred from toner sheets including K, C, M and Y inks to an image receiving sheet when irradiated by a laser source. Figs.14(a)-(d), page 1, line 23 to page 2, line 24. In such image recording processes, the image receiving sheet must be transferred to a separate apparatus to reproduce the image on a recording sheet. This additional transfer step complicates the image processing method, and during the transfer, the image receiving sheet may become contaminated with dust or experience other damage. Page 3, lines 6-19. Additionally, the thickness of the imaging sheet may vary depending on its location on a recording drum. Since the irradiated laser light maintains a fixed focal length, this variation in thickness can cause degradation to the image recorded on the image receiving sheet. Page 3, lines 20-25.

¹ It is assumed that multiple dependent claim 12, to the extent that it depends on claim 4/1 is also being rejected over the combination of Takanashi, Michelson and Fujimura.

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The present invention obviates these deficiencies by applying toner inks directly to the recording sheets. Referring to Fig. 2, the method includes placing a recording sheet 7 on a recording drum 2. Then, an image receiving sheet 5, having image receiving layer 5a and substrate 5b, is placed over the recording sheet 7. Page 11, lines 10-22. A toner layer 6, having a substrate layer 6a and toner layer 6c, is disposed on the image receiving layer 5. After the substrate 5b of the image receiving sheet is separated, the toner layer 6c is in direct contact with the image receiving layer 5a. Laser light is irradiated to the toner layer to transfer an image according to recording data. Page 11, line 20 to page 12, line 2. The process of image transfer can be repeated for different color toners. As an additional feature of the invention, the image receiving sheet includes a cushion layer (Fig. 11, element 5c) disposed underneath the image receiving layer 5a and in contact with the recording layer. The inclusion of the cushion layer helps maintain an even writing surface and aids in the application of toner inks, thereby preventing toner separation. Page 15, line 24 to page 16, line 6. A further protective layer (See Fig. 13, element 8a) can be added to the recorded image after all toner transfers are completed.

In another embodiment of the invention the focal length of the laser is adjusted according to a detected thickness of the recording paper attached to the head drum. The thickness detection and focal length adjustment can be performed concurrently with the laser irradiation. Page 17, lines 7-18. Alternatively, the thickness information can be prestored and read out during laser scanning.

VI. ISSUES

1. Whether the Section 103 rejection of claims 1 and 12/1 in view of the combination of Takanashi and Michelson should be withdrawn.

2. Whether the Section 103 rejection of claims 2, 4-5, 12/2/1, 12/4/1² and 12/5/1 in view of the combination of Takanashi in view of Michelson and further in view of Fujimura should be withdrawn.

3. Whether the Section 103 rejection of claims 2 and 17 in view of Takanashi in view of Michelson and further in view of Koguchi should be withdrawn.

VII. GROUPING OF CLAIMS

For each ground of rejection, the claims stand or fall together:

Group 1: Claims 1 and 12/1

Group 2: Claims 2, 4-5, 12/2/1, 12/4/1 and 12/5/1

Group 3: Claims 2 and 17

VIII. ARGUMENTS

As a preliminary matter, Appellant would request that the finality of the Office Action be withdrawn. The Examiner maintains that a first Office Action final rejection is warranted in this case, because the claims are drawn to the same invention claimed in the earlier application.

However, Appellant would submit that by the Preliminary Amendment filed on March 14, 2002, the claimed invention was modified to include additional subject matter in claims 1 and 12.

Therefore at least these claims include features directed to a different invention than had been

² See Note 1.

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prosecuted in the parent case. Had a preliminary amendment not been filed, then arguably the first Office Action final rejection would be appropriate. However, that is not the case in the present application.

In discussions with the Examiner, the Examiner suggested that U.S. Patent Office Policy has been to read MPEP Section 706.07(b) regarding First Office Action Final procedures to apply final office actions where the invention is directed to the same statutory class of invention. In other words, the claims are directed to the same invention if drawn to a method in the parent case and also to a method in the continuation case. Appellant would submit that this is an overly narrow reading of MPEP Section 706.07(b). Taken to its logical conclusion, no continued prosecution application could ever avoid a First Office Action Final rejection because the prosecution is a continuation of the prosecution that preceded, which typically comprises prosecution of the same statutory class. Alternatively, the Examiner would require Appellant to shift to prosecution of the non-elected invention in this case in order to avoid the First Office Action Final Rejection. The practice requiring CPAs to be directed to a different class of inventions in order to avoid a first Office Action Final Rejection would clearly introduce inefficiencies in the prosecution process, necessitating constant shifts in the focus of continuation applications. This could not have been the intent or purpose underlying Section 706.07(b). Rather, Appellant submits that "same invention" should be construed to include the same claims. By virtue of adding subject matter, the claims are directed to a different invention than what preceded. Accordingly, the finality of the Office Action should be withdrawn. Appellant reserves the right to file a Petition under 37 C.F.R. 1.181.

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Turning to the cited art, Takahashi relates to a thermal printing apparatus, including the application of a binder material to a sheet of recording material. The toner sheet is provided in a continuous roll form, which is brought into contact with the receiving layer at a portion where a thermal head is placed. See Fig.1, elements 8a and 7. Further to these descriptions, it is noted that the supply of a binder material, such as wax, and a toner material in Takanashi are each provided in continuous roll form.

Fujimura relates to a heat transfer sheet that is suitable for transferring pre-printed images to a substrate using a heat and pressure transfer method. Col. 12, lines 62-65. Referring to Fig. 5, the heat transfer sheet 10 includes a base 1. Ink portions Y, M, C, B_k are included in the same layer as an adhesive image forming layer 6. Col. 3, lines 35-45. As shown in Fig. 6B, when the pre-printed ink image is applied to a substrate, an ink 11 is supplied into the image forming layer. Col. 4, lines 5-10. Fujimura seeks to meld the ink layer and the image forming layer together in order to provide better adhesion of the image to any surface. Col. 2, lines 30-40.

Michelson relates to an apparatus for loading a recording material and successive donor sheets onto a recording drum using a vacuum disposed within the drum core as a holding mechanism. Referring to Fig. 2, a drum 1 has vacuum holes 12, and is connected to a vacuum pump. A receiver sheet 8 disposed on the drum becomes covered by donor sheets 9, 10, 11, 12, in succession. The sets of donor sheets and receiver sheets are stored in tray 4, which can be moved towards the drum by an actuator 6 and pivot 7. The action of the vacuum attracts the materials to the drum. Because some receiving sheets are not permeable to a vacuum source, the

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donor sheets must extend beyond the receiver sheets by some margin in order for the vacuum to be effective to hold the donor sheets against the drum.

At col. 4, lines 5-7, the receiver sheet 8 of Michelson is described as a sheet which is subsequently provided to a tray 5. Accordingly, Michelson appears to teach a configuration similar to that described in the background section of the invention. Nothing in Michelson would obviate a further step and an additional drum for transferring the image on receiver sheet 8 onto a final recording sheet.

Koguchi relates to a structure of a donor sheet material.

Group I: Argument 1: The combination of Takanashi and Michelson would defeat a principle of operation of each reference and therefore, their combination is improper.

The Examiner maintains that the combination of Takanashi and Michelson teaches or suggests each feature of independent claim 1. The Examiner correctly concedes that Takanashi fails to teach toner sheets provided in a cut sheet form, but cites Michelson to make up for this deficiency. The rejection is not supported for the following reasons.

First, Appellant notes that the binder material described in Takanashi comprises materials such as wax, which could not be effectively penetrated by a vacuum. See Takanashi col. 2, lines 29-31. If such a binder material were to be included on the receiving sheet of Michelson, this would defeat the ability for the vacuum to hold subsequent sheets of donor materials to the drum without a redesign of the Michelson reference in ways that are not suggested by the Michelson disclosure.

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Second, Appellant notes that the binder material provided in Takanashi is provided in a continuous form. If the continuous binder forms of Takanashi were combined with Michelson, the continuous roll form of the binder would necessarily obstruct the vacuum holes in the recording drum and eliminate the ability for the Michelson device to attach successive toner sheets onto the drum. The Michelson reference is completely silent as to such binders and how to apply such binders within the apparatus. Neither Michelson nor Takanashi makes any suggestions on changes in the form of how the binder should be applied to a recording sheet.

The Examiner asserts that the binder (of Takanashi) would necessarily obstruct vacuum holes in the combination of Takanashi and Michelson. Advisory Action, page 3, lines 2-4. Despite the Examiner's characterization to the contrary, this actually supports Appellant's prior arguments that it would not be possible to combine the teachings of Takanashi and Michelson without significant re-design of both references in ways that are not contemplated in the art. Regardless of whether the rejection is a modification of Takanashi in view of Michelson, or vice versa, their combination is improper.

Fundamentally, the placement of the binder onto the receiving sheet in Takanashi and the subsequent heating of a coloring material onto the receiving sheet surface all rely on particular placements of the binder and the rolled colored material relative to the drum. The binder is provided by relaying out a continuous roll of material, while applying tension with the fuser element 6. Similarly, the continuous roll of the color material is provided to a surface of the binder material under tension. There is no indication of how an individual toner sheet could be adequately positioned against the binder absent the use of the continuous roll of the toner.

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To the extent that the Examiner relies on Michelson to teach individual toner sheets, one skilled in the art is still left to consider how to keep the toner sheet disposed against the binder (Takanashi, element 4b) during the transfer. In this connection, Michelson teaches that the contact of the toner to its underlying target is by suction. However, as previously discussed, it would not be possible to provide the relative positioning of the toner sheet by suctioning in the cited combination, because in Takanashi, the underlying binder material (formed as a continuous roll), would not permit an overlap of the toner sheet over an edge of the binder material that would allow suction to be used as a positioning mechanism.

As a related matter, the Examiner contends that there is no contact between the drum and binder sheet in Takanashi, and therefore, there is no obstruction of vacuum holes by the binder. Advisory Action, page 3, lines 5-11. The obstruction of suction by the binder does not require direct contact between the binder and the drum as the Examiner suggests. Rather, all that is required is that the binder be intermediate to the drum and the toner, which is the case when the Examiner attempts to combine Takanashi and Michelson.

Moreover, the mere combination of Michelson and Takanashi would not obviate many of the deficiencies in the art, including the additional step for transferring images to a final recording sheet. In particular, the mere fact that Michelson uses a paper sheet 8 does not necessarily implicate forming an image to an image receiving layer of a recording sheet. A subsequent transfer may be required. Takanashi is directed to a fundamentally different type of image transfer than Michelson. Therefore, one skilled in the art would not combine the formation of images to the image receiving layer based on the teachings of Michelson.

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In view of the foregoing, Appellant would argue that the combination of Michelson and Takanashi is not feasible given the teachings of each reference. The inclusion of the binder characteristics of Takanashi would defeat the principle of operation of Michelson, and the inclusion of the binder would necessitate changes in design that are not taught or suggested by either reference. Moreover, the two references teach a fundamentally different technique, where Michelson likely includes the additional steps and equipment that was necessary in conventional techniques, but which are obviated in the present invention. This further demonstrates that the primary rejection is based in improper hindsight reconstruction of the claim rather than on what the references fairly suggest. Therefore, independent claim 1 is patentable for at least this reason. Claims 2-12 and 17 are patentable based on their dependency. Appellant submits that claim 1 is generic and allowability of this claim would require rejoinder of the non-elected claims in the application.

Group II: Argument 1: Claims 2 and 4-5 are dependent on claim 1 and are patentable for the reasons set forth above for Group I.

Group II: Argument 2: Fujimura cannot be applied against the present invention or combined with Takanashi and Michelson.

With further regard to claim 2, the Examiner further cites Fujimura to make up for the deficiencies of Takanashi and Michelson with regard to inclusion of the cushion layer and protective layer. Appellant would emphasize that Fujimura is not applicable to the present invention and may not be combined with the primary combination. Fujimura relates to the

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transfer of previously formed images onto a receiving substrate, and thus would have fundamentally different concerns than the present invention. Specifically, the claims include the transfer of toners in accordance with certain recording data. By contrast, previously recorded images would not include toner transfer according to such data. Additionally, Fujimura requires simultaneous application of heat and pressure to provide the transfer, with heat and pressure being applied on opposite sides of the image-forming substrate. This would not be possible with the drum mechanisms discussed in Michelson.

Additionally, given Michelson's reliance on the vacuum holding power for successive sheets of material, Appellant would argue that further inclusion of a cushion layer would further defeat this aspect of Michelson. In particular, the cushion layer would introduce an additional surface that creates a boundary between the vacuum and overlying materials, and would increase the distance between the vacuum source and materials. Both these aspects combine to weaken the ability to provide a holding force by the vacuum. Therefore, claim 2 is patentable for this additional reason.

Group III: Argument 1: Claims 2 and 17 are dependent on claim 1 and are patentable for the reasons set forth for Group I.

Group III: Argument 2: Koguchi does not make up for the deficiency of the primary combination.

With further regard to claims 2 and 17, the Examiner further cites Koguchi for teaching features of these claims. However, Koguchi does not address the deficiency as discussed above

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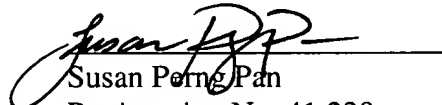
with regard to the primary combination of Takanashi and Michelson. Therefore, these claims are patentable for this additional reason.

The present Brief on Appeal is being filed in triplicate. Unless a check is submitted herewith for the fee required under 37 C.F.R. §1.192(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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Date: November 25, 2002

APPENDIX

CLAIMS 1, 2, 4, 5, 12 AND 17 ON APPEAL:

1. An image recording method comprising the steps of:
 - a) attaching recording paper to an outer peripheral surface of a recording drum;
 - b) attaching an image receiving sheet having an image receiving layer and a substrate, onto a surface of the recording paper to adhere the image receiving layer on a surface of at least a whole of recording region of the recording paper;
 - c) separating the substrate such that only the image receiving layer is transferred onto the recording paper;
 - d) winding a toner sheet, provided as a cut sheet form, onto a surface of the image receiving layer; and
 - e) transferring toner on the toner sheet onto the image receiving layer to record an image thereon in accordance with recording data,wherein all the steps a) through e) are performed on the recording drum.
2. The image recording method as set forth in claim 1, wherein a cushion layer is formed between the surface of the recording paper and the image receiving layer and in physical contact with the surface of the recording paper.

4. The image recording method as set forth in claim 1, wherein the image receiving sheet includes a cushion layer therebeneath, and the image receiving layer is transferred such that the cushion layer is placed between the surface of the recording paper and the receiving layer and in physical contact with the surface of the recording layer.

5. The image recording method as set forth in claim 1, wherein a protective layer is formed on an image recorded surface on the recording papers.

12. An image recording method for recording an image as set forth in any one of claims 1-2 and 4-11, wherein the steps of attaching recording paper, attaching an image receiving sheet, winding a toner sheet, and transferring toner are performed in a single apparatus.

17. An image recording method as set forth in claim 2, wherein the cushion layer is in physical contact with an entire surface of the recording paper on at least one side.